

## Center on Alcoholism, Substance Abuse, and Addictions (CASAA)

University of New Mexico  
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### INTRODUCTION

- Adolescence is a developmental period typified by high exploration.
- A hallmark of youth is their higher impulsivity, which includes a reduced ability to inhibit behavior and a tendency to act without forethought to behavioral consequences (Moeller et al., 2005)
- Patterns of impulsive decision-making are associated with increased health risk behaviors including risky sexual behavior and risk for addiction (Kreek et al., 2005; Robbins & Bryan, 2004).
- Youth with lower alcohol use and lower impulsivity have responded better to motivational interviewing (MI) based interventions (Helstrom et al., 2007).
- Lower impulsivity youth are also more likely to take steps toward behavior change following MI (Feldstein Ewing et al., 2009).
- It is unknown how impulsivity affects client speech about change, a proposed mechanism of action in MI (Moyers et al., 2009).
- Because rates of sexual risk behavior are currently higher in adolescents than adults (Wilson et al., 2010), and are associated with alcohol use (Bryan, Ray & Cooper, 2007), identifying factors that affect treatment outcomes for adolescents could have powerful public health implications.
- The purpose of this study was to evaluate how impulsivity relates to adolescent speech about HIV risk in a justice-involved sample, with the hypothesis that impulsivity would be negatively related to change talk (CT) and positively related to sustain talk (ST).

### METHOD

- Audio recordings and assessment data were obtained via a data sharing agreement and DSMP with Project DASH (NINR R01NR01332, MPIs Feldstein Ewing and Bryan), a study of neurocognitive factors in adolescent decision making and HIV risk avoidance.
- Data included baseline measures of risk behavior and ratings from the Impulsive Sensation Seeking Scale (ImpSS: Zuckerman et al., 1993), a measure of impulsivity and sensation seeking.
- Audio-recorded intervention sessions from 97 justice-involved youth (see Table 1 for demographics and descriptive statistics) were examined as part of an ongoing secondary analysis of adolescent client speech and HIV/STI risk reduction (R03DA035690, PI: Houck).
- Sessions were sequentially coded using the MISC 2.5 (Houck et al., 2010) and a modified version of the CACTI coding application. CT and ST counts were extracted from these data..
- 27.9% of youth reported using alcohol at their most recent sexual encounter and 42.3% reported using cannabis at their most recent sexual encounter, suggesting a pattern of association between substance use and sexual behavior.

- The relationship between client speech and ImpSS ratings was assessed using MANCOVA.
- Effects on categories of client speech were examined post hoc using nonparametric correlations.

Variable	Mean (SD) / N (%)
Age	15.9 (1.2)
Gender	
Male	58 (59.8%)
Female	37 (38.1%)
Missing	2
Last grade completed	9 (1.2)
Race/Ethnicity	
White	20
African American	11
Hispanic	69
Native American	8
Other	4
Free lunch eligibility	
None	31 (32%)
Partial	15 (15.5%)
Full	49 (50.5%)
Missing	2
AUDIT	5.0 (6.3)
ImpSS	
Impulsivity	4.3 (2.3)
Sensation seeking	7.1 (2.5)
Total	11.4 (4.2)
Percent condom use	29.6% (43.9)

**Table 1.** Demographic information and descriptive statistics

### RESULTS

- Estimates of inter-rater reliability for the CT and ST categories were in the excellent range (ICC = .90 and .89, respectively).
- High mean counts of CT (M = 64.1, SD = 53.2) and ST (M = 7.8, SD = 12.9) were detected.
- There was a significant multivariate relationship between impulsive sensation seeking (ImpSS) and a linear composite of client change language ( $F_{(2,91)} = 3.61, \eta^2_p = .074, p < .05$ ).
- In particular, higher sensation seeking (SS) was significantly associated with less CT ( $b = -6.1, t = -2.3, p = .023$ ).
- Post-hoc analysis revealed significant negative correlations between SS and the Reason+ ( $r = -.17, p < .025$ ), Desire+ ( $r = -.19, p < .025$ ), and Removed+ ( $r = -.16, p < .05$ ) subcategories of CT, suggesting a link between higher SS and lower desire, reasons, or enjoyment of safer sex practices.

- Impulsivity and SS were moderately intercorrelated ( $r = .43, p < .001$ ), and were each also related to the baseline AUDIT ( $r = .16, p < .05$  and  $r = .25, p < .01$ , respectively).

### DISCUSSION

- Higher ratings of sensation-seeking were significantly associated with less adolescent speech favoring change and with higher current health risk.
- In particular, Reasons and Desire to use safer-sex practices were negatively associated with SS, as was as “Removed” change talk, a category that captures youth use of third-party (“my friend”, “they”) speech favoring change (Glynn, 2013).
- Impulsivity and sensation-seeking are typical of adolescents as they transition toward adulthood, and thus such traits should not be thought of as pathological or defective (Geidd, 2012).
- Because an effect was observed for CT but not ST, it may be the case that youth with higher sensation-seeking perceive fewer benefits of change, without actively opposing change.
- A better understanding of the relationship between sensation-seeking and within-session client speech may be important for enhancing the effectiveness of this intervention to reduce adolescent sexual risk.
- These findings are consistent with studies of other adolescent health risk behaviors including smoking and alcohol use.
- Subsequent analysis will address the proposed causal chain for MI (Moyers et al., 2009) in this at-risk adolescent sample.

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